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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,038	01/20/2004	Junichi Hayashi	CFA00043US	3926

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Canon U.S.A. Inc.  
Intellectual Property Department  
15975 Alton Parkway  
Irvine, CA 92618-3731

EXAMINER

WANG, JIN CHENG

ART UNIT	PAPER NUMBER
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2628

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/762,038	<b>Applicant(s)</b> HAYASHI, JUNICHI	
	<b>Examiner</b> Jin-Cheng Wang	<b>Art Unit</b> 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 49-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 49-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 7, 2006 has been entered. Claims 1-48 have been canceled. Claims 49-66 have been newly added. Claims 49-66 are pending in the present application.

### *Response to Arguments*

Applicant's arguments filed April 7, 2006 have been fully considered but are moot in view of the new ground(s) of rejection set forth in the this Office Action.

As addressed below, the Claim 49 is rejected as being anticipated by Matsunoshita US 2003/0179412 A1 (hereinafter Matsunoshita) in view of Shimada et al. U.S. Patent Publication No. 2004/0021311 (hereinafter Shimada).

Matsunoshita teaches an image-processing apparatus comprising:

Inputting means (*e.g., Paragraph 0050*) for inputting area-assignment information that defines a latent-image area and a background area (*e.g., Paragraph 0065 and 0075 for the inputting means and Paragraph 0067 and 0070-0073 for the inputting means for inputting area-assignment information that defines a latent-image area and a background area wherein the coding array is generated within the background image buffer having the area-assignment*

information that defines a latent-image area and a background area), and additional information which represents that this is the original (e.g., *The Paragraph 0112 of the cited reference teaches the copying operation controls that permit a specific user to copy for the original document and the background image of Paragraphs 0066-0069 is the same as the additional information as claimed and the copy inhibition code array and the copy condition code are arranged over the entire image surface as taught in Paragraph 0112. The copy inhibition code array and copy condition code array thus permit a specific user to copy for each document without the latent image characters "COPY" being added; MOREOVER, the received additional information may be the PDL information of Paragraph 0075 or may be either from the embedded code information in the background image or the additional information retrieved from the internal memory, e.g., the machine number, user ID and password stored in the internal ROM; Paragraphs 0125-0127, or the contents of the condition information with the information registered in the internal memory; Paragraph 0157; based on the additional information received from the internal memory, the control part 32 analyzes the condition information represented by the condition code to permit or inhibit copying of the image; and by the template matching technique of Paragraph 0133 and the judgment is made whether the document image is a copy inhibition document of Paragraph 0149 based on the embedded information in the background image. Permit of copying means the permit of copying of the document image which is an original image to be copied without copy inhibition wherein the copying of the document image is an original image. FINALLY, in Paragraph 0162, 0165; 0066-0069; Matsunoshita teaches additional information being ALSO attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information*

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*such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. The original document image may be printed. The copy inhibition information is attached to the latent image area to distinguish from an original image. See Paragraph 0193-0194 wherein the document data may be printed without the pattern images or without the copy inhibition information. In Paragraph 0200, the copy inhibition code is used to permit the copying of the printed document wherein the printed document serves as “an original document”. However, Paragraph 0210-0211 illustrate that the document is printed with the pattern images shown)*

Generating means for generating a pattern image by arranging dots of a first dot size in the background area that is defined by the area-assignment information, and based on the additional information, arranging dots of a second dot size that is a smaller dot size than the first dot size in the latent-image area that is defined by the area-assignment information (e.g., Paragraph 0101; the relatively large dots outside the latent image are faithfully reproduced, but relatively small dots within the latent image characters cannot be faithfully copied by the copying machine; moreover, the document image and the background image containing a number of pattern images may have dots of different sizes; Figs. 3-4, 6(A)-6(B), Paragraph 0005, 0016, 0021, 0027, 0066-0069, 0100, 0101; the background image is generated having a size smaller than the document image; Paragraph 0160);

Wherein the additional information can be extracted (See Paragraph 0110 wherein the latent image comes forth into view and thus it can be extracted; moreover, in Paragraph 0116-

0118 and 0129-0131 the copy inhibiting information can be extracted according to the dots or the binary data 0 and 1 within the latent-image area; see also Paragraph 0162-0163)

Matsunoshita clearly teaches that the additional information such as the embedded code information with the contents of the condition information and the copy inhibition code are reconstructed as a background image wherein the background image includes a latent image. Moreover, the background image including the additional information is also attached to the document image in compositing; see Paragraph 0016, 0021, 0027, 0051, 0054, 0066, 0072, 0081, 0083, 0088, 0093, 0099-0106, 0109, 0117, 0124-0127, 0132-0133, 0145-0147, 0155-0165, 0198-0204, 0209-0211; See paragraph 0066-0069; Matsunoshita teaches additional information being attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. The copy as shown in Figs. 6(B) and 6(C) is legible with characters "COPY". Therefore, the copy inhibition information is attached to the latent image area to distinguish an original image from a copy. In the images in Figs. 6(B) and 6(C), "COPY" can be seen by the human eye.

In other words, Matsunoshita clearly shows that additional information is ALSO attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image

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characters cannot be faithfully copied by the copying machine in which the character image is snow white not containing characters and graphics (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. See paragraph 0110 that the characters embedded as a latent image comes forth into view when the document image is copied. See also Paragraph 0160 that the background image is located in a predetermined location of the document image.

The attached information is capable of distinguishing the original document from a copy. The cited reference teaches the composite image having the embedded information is an ORIGINAL image as distinct from the copied one after it is subject to the copying operation. This allows the copy of the original document to be distinguished from the original document. The user is also capable of printing out the original document without attaching the additional information, i.e., the background image to the original document when the user is permitted to print the original document. Moreover, Matsunoshita discloses the copying of the original document is either allowed or prohibited, and if allowed, a copy inhibition mark is attached with the original document in the latent image area together with the background image. See Paragraph 0193-0194 wherein the document data may be printed without the pattern images or without the copy inhibition information. In Paragraph 0200, the copy inhibition code is used to permit **the copying of the printed document** wherein the printed document serves as “an original document”. Paragraph 0210-0211 illustrate that the document is printed as a copy with the pattern images shown.

Matsunoshita discloses in Paragraph 0110 that this psychological deterrent acts on the illicit copying act and one can **distinguish between the original and the copied sheet by the emerging image**. *Therefore, Matsunoshita clearly discloses the additional information is*

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*capable of distinguishing an original image from a copy as the additional information is attached to the latent image area to distinguish an original image from a copy.* In the image of Fig. 6(B), the copied image is clearly different from the original image-the confidential document.

However, Matsunoshita is silent to the claim limitation wherein the additional information can be extracted according to the arrangement of dots in the latent-image area in the generated pattern image.

Shimada teaches the claim limitation the additional information can be extracted according to the arrangement of dots in the latent-image area in the generated pattern image (*See Shimada Paragraph 0101, 0110, 0166*).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to have incorporated Shimada's teaching into Matsunoshita because the printed matter of Matsunoshita can be irradiated with UV rays of Shimada so that the latent image can be visually recognized/extracted. Moreover, Shimada discloses the claim limitation generating means for generating a pattern image by arranging dots of a first dot size in the background area that is defined by the area-assignment information, and based on the additional information, arranging dots of a second dot size that is a smaller dot size than the first dot size in the latent-image area that is defined by the area-assignment information (*See Shimada Figs. 1, 4, 7 and 11*).

One of the ordinary skill in that art would have been motivated to have extracted the additional information including the latent-image area according to the arrangement of the dots in the latent image area as the dots of the patent image area is different from the dots in the



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peripheral area according to Shimada (Shimada Figs. 1, 4, 7 and 11) that can be visually recognized with the device of Shimada (Shimada Paragraph 0101, 0110, 0166).

### ***Specification***

The disclosure is objected to because of the following informalities: In lines 22-23 of the Page 15 of the specification, “Figs. 5C and 5D” should be “Figs. 5A and 5B.” Appropriate correction is required.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: the reference no 45 appearing on line 24 of page 15 in the specification is not found in Figs. 5C and 5D or 5A and 5B. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 49-53, 57-62 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

For example, the base claim 49 recites the “additional information which represents that this is the original” and the claim limitation “wherein the additional information can be extracted according to the arrangement of dots in the latent-image area in the generated pattern image.” However, nowhere in the specification describes providing additional information to represent “this is the original”, as opposed to indicate “VOID COPY” (See Figs. 3A-3C and 11A of the applicant’s specification). The additional information is provided to control and/or inhibit the copying operation, rather than to indicate an original copy. Moreover, nowhere in the specification describes the additional information can be extracted according to the arrangement of dots in the latent-image area in the generated pattern image. Therefore, the metes and bounds of the coverage of at least base claim 49 cannot be ascertained.

To comply with the “written description” requirement of 35 U.S.C. 112, first paragraph, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the “written description” inquiry, whatever is now claimed. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d

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1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). For purposes of written description, one shows “possession” by descriptive means such as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Such descriptive means cannot be found in the disclosure for the inventions of the base claim 49.

Claims 50-53 depend upon the claim 49 and are rejected due to their dependency on the claim 49.

The claim 57 is subject to the same rationale of rejection set forth in the claim 49.

The claims 58-62 depend upon the claim 57 and are rejected due to their dependency on the claim 57.

Claims 54-56 and 63-66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

For example, the base claim 54 recites the claim limitation “wherein the additional information can be extracted according to the arrangement of dots in the latent-image area in the generated pattern image.” However, nowhere in the specification describes the additional information can be extracted according to the arrangement of dots in the latent-image area in the generated pattern image. Therefore, the metes and bounds of the coverage of at least base claim 54 cannot be ascertained.

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To comply with the “written description” requirement of 35 U.S.C. 112, first paragraph, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the “written description” inquiry, whatever is now claimed. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). For purposes of written description, one shows “possession” by descriptive means such as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Such descriptive means cannot be found in the disclosure for the inventions of the base claim 49.

Claims 55-56 depend upon the claim 54 and are rejected due to their dependency on the claim 54.

The claim 63 is subject to the same rationale of rejection set forth in the claim 54.

The claims 64-66 depend upon the claim 63 and are rejected due to their dependency on the claim 63.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The claims 49-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claims 49 and 57 recite, "this is the original". The claim language is confusing as to whether the additional information has "ORIGINAL" latent image characters or indicating the pattern image as being original. Clarification is required.

Claims 50-53 depend upon the claim 49 and are rejected due to their dependency on the claim 49.

The claims 58-62 depend upon the claim 57 and are rejected due to their dependency on the claim 57.

Claim 54 recite, "arranging a first dot size at the determined positions in the latent image area" and "arranging dots of a second size...at the determined positions in the latent image area. The claim language is confusing and contradictory because only one dot size is associated with the latent image area. Clarification is required.

Claims 55-56 depend upon the claim 54 and are rejected due to their dependency on the claim 54.

The claim 63 is subject to the same rationale of rejection set forth in the claim 54.

The claims 64-66 depend upon the claim 63 and are rejected due to their dependency on the claim 63.

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 49-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsunoshita US 2003/0179412 A1 (hereinafter Matsunoshita) in view of Shimada et al. U.S. Patent Publication No. 2004/0021311 (hereinafter Shimada).

Re Claims 49, 57 and 62:

Matsunoshita teaches an image-processing apparatus comprising:

Inputting means (e.g., Paragraph 0050) for inputting area-assignment information that defines a latent-image area and a background area (e.g., Paragraph 0065 and 0075 for the inputting means and Paragraph 0067 and 0070-0073 for the inputting means for inputting area-assignment information that defines a latent-image area and a background area wherein the coding array is generated within the background image buffer having the area-assignment information that defines a latent-image area and a background area), and additional information which represents that this is the original (e.g., The Paragraph 0112 of the cited reference teaches the copying operation controls that permit a specific user to copy for the original document and the background image of Paragraphs 0066-0069 is the same as the additional information as claimed and the copy inhibition code array and the copy condition code are arranged over the entire image surface as taught in Paragraph 0112. The copy inhibition code array and copy condition code array thus permit a specific user to copy for each document without the latent

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*image characters "COPY" being added; MOREOVER, the received additional information may be the PDL information of Paragraph 0075 or may be either from the embedded code information in the background image or the additional information retrieved from the internal memory, e.g., the machine number, user ID and password stored in the internal ROM; Paragraphs 0125-0127, or the contents of the condition information with the information registered in the internal memory; Paragraph 0157; based on the additional information received from the internal memory, the control part 32 analyzes the condition information represented by the condition code to permit or inhibit copying of the image; and by the template matching technique of Paragraph 0133 and the judgment is made whether the document image is a copy inhibition document of Paragraph 0149 based on the embedded information in the background image. Permit of copying means the permit of copying of the document image which is an original image to be copied without copy inhibition wherein the copying of the document image is an original image. FINALLY, in Paragraph 0162, 0165; 0066-0069; Matsunoshita teaches additional information being ALSO attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. The original document image may be printed. The copy inhibition information is attached to the latent image area to distinguish from an original image. See Paragraph 0193-0194 wherein the document data may be printed without the pattern images or without the copy inhibition information. In Paragraph 0200, the copy inhibition code is used*

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to permit the copying of the printed document wherein the printed document serves as "an original document". However, Paragraph 0210-0211 illustrate that the document is printed with the pattern images shown)

Generating means for generating a pattern image by arranging dots of a first dot size in the background area that is defined by the area-assignment information, and based on the additional information, arranging dots of a second dot size that is a smaller dot size than the first dot size in the latent-image area that is defined by the area-assignment information (e.g., Paragraph 0101; the relatively large dots outside the latent image are faithfully reproduced, but relatively small dots within the latent image characters cannot be faithfully copied by the copying machine; moreover, the document image and the background image containing a number of pattern images may have dots of different sizes; Figs. 3-4, 6(A)-6(B), Paragraph 0005, 0016, 0021, 0027, 0066-0069, 0100, 0101; the background image is generated having a size smaller than the document image; Paragraph 0160);

Wherein the additional information can be extracted (See Paragraph 0110 wherein the latent image comes forth into view and thus it can be extracted; moreover, in Paragraph 0116-0118 and 0129-0131 the copy inhibiting information can be extracted according to the dots or the binary data 0 and 1 within the latent-image area; see also Paragraph 0162-0163)

Matsunoshita clearly teaches that the additional information such as the embedded code information with the contents of the condition information and the copy inhibition code are reconstructed as a background image wherein the background image includes a latent image. Moreover, the background image including the additional information is also attached to the



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document image in compositing; see Paragraph 0016, 0021, 0027, 0051, 0054, 0066, 0072, 0081, 0083, 0088, 0093, 0099-0106, 0109, 0117, 0124-0127, 0132-0133, 0145-0147, 0155-0165, 0198-0204, 0209-0211; See paragraph 0066-0069; Matsunoshita teaches additional information being attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. The copy as shown in Figs. 6(B) and 6(C) is legible with characters "COPY". Therefore, the copy inhibition information is attached to the latent image area to distinguish an original image from a copy. In the images in Figs. 6(B) and 6(C), "COPY" can be seen by the human eye.

In other words, Matsunoshita clearly shows that additional information is ALSO attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine in which the character image is snow white not containing characters and graphics (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. See paragraph 0110 that the characters embedded as a latent image comes forth into view when the document image is copied. See also Paragraph 0160 that the background image is located in a predetermined location of the document image.

The attached information is capable of distinguishing the original document from a copy. The cited reference teaches the composite image having the embedded information is an

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ORIGINAL image as distinct from the copied one after it is subject to the copying operation. This allows the copy of the original document to be distinguished from the original document. The user is also capable of printing out the original document without attaching the additional information, i.e., the background image to the original document when the user is permitted to print the original document. Moreover, Matsunoshita discloses the copying of the original document is either allowed or prohibited, and if allowed, a copy inhibition mark is attached with the original document in the latent image area together with the background image. See Paragraph 0193-0194 wherein the document data may be printed without the pattern images or without the copy inhibition information. In Paragraph 0200, the copy inhibition code is used to permit **the copying of the printed document** wherein the printed document serves as “an original document”. Paragraph 0210-0211 illustrate that the document is printed as a copy with the pattern images shown.

Matsunoshita discloses in Paragraph 0110 that this psychological deterrent acts on the illicit copying act and one can **distinguish between the original and the copied sheet by the emerging image**. *Therefore, Matsunoshita clearly discloses the additional information is capable of distinguishing an original image from a copy as the additional information is attached to the latent image area to distinguish an original image from a copy.* In the image of Fig. 6(B), the copied image is clearly different from the original image-the confidential document.

However, Matsunoshita is silent to the claim limitation wherein the additional information can be extracted **according to the arrangement of dots in the latent-image area** in the generated pattern image.

Shimada teaches the claim limitation the additional information can be extracted according to the arrangement of dots in the latent-image area in the generated pattern image (*See Shimada Paragraph 0101, 0110, 0166*).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to have incorporated Shimada's teaching into Matsunoshita because the printed matter of Matsunoshita can be irradiated with UV rays of Shimada so that the latent image can be visually recognized/extracted. Moreover, Shimada discloses the claim limitation generating means for generating a pattern image by arranging dots of a first dot size in the background area that is defined by the area-assignment information, and based on the additional information, arranging dots of a second dot size that is a smaller dot size than the first dot size in the latent-image area that is defined by the area-assignment information (*See Shimada Figs. 1, 4, 7 and 11*).

One of the ordinary skill in that art would have been motivated to have extracted the additional information including the latent-image area according to the arrangement of the dots in the latent image area as the dots of the patent image area is different from the dots in the peripheral area according to Shimada (*Shimada Figs. 1, 4, 7 and 11*) that can be visually recognized with the device of Shimada (*Shimada Paragraph 0101, 0110, 0166*).

Re Claims 50 and 58:

Matsunoshita further discloses the claim limitation wherein when the pattern image generated by the generating means is output on a sheet and the sheet is copied, the image in the background area is reproduced on the copy obtained by copying out of the image in the latent-

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image area (See Matsunoshita Figs. 6(A)-6(C), 7(B), and Paragraph 0066-0069; Paragraph 0101, 0109, 0160).

Re Claims 51 and 59:

Matsunoshita further discloses the claim limitation wherein reproduction of the image in the background on the copy out of the image in the latent-image area represents information indicating that this is a copy (See Matsunoshita Figs. 6(A)-6(C), 7(B), and Paragraph 0066-0069; Paragraph 0101, 0109, 0160).

Re Claims 52 and 60:

Matsunoshita further discloses the claim limitation wherein the dots of the first dot size are reproduced by copying, and the dots of the second size are harder to reproduce than the dots of the first dot size (See Matsunoshita Paragraph 0101).

Re Claims 53 and 61:

Matsunoshita further discloses the claim limitation wherein the generating means arranges the dots of the second size at positions based on the additional information in the latent image area (e.g., *Matsunoshita has taught in Paragraph 0092 that a pattern number array is generated having the same size as of the whole latent image wherein the values of the elements of the pattern number array are 0s, or 1s on the whole image; in Paragraph 0083, Matsunoshita has taught the pattern number array is such that latent image characters are depicted by the pattern number (e.g., 2s) according to the predetermined rules on the background in which the copy inhibition codes are condition codes are arrayed and in Paragraph 0090, Matsunoshita has taught that the periphery of the rectangular area having given vertical and horizontal sizes is*

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*entirely defined by 1s; see Paragraph 0100 wherein Matsunoshita has taught that the pattern images inside the latent image characters are different from those outside the latent image*).

Re Claims 54, 63 and 66:

Matsunoshita teaches an image-processing apparatus comprising:

Inputting means (*e.g., Paragraph 0050*) for inputting area-assignment information that defines a latent-image area and a background area (*e.g., Paragraph 0065 and 0075 for the inputting means and Paragraph 0067 and 0070-0073 for the inputting means for inputting area-assignment information that defines a latent-image area and a background area wherein the coding array is generated within the background image buffer having the area-assignment information that defines a latent-image area and a background area*), and additional information (*e.g., The Paragraph 0112 of the cited reference teaches the copying operation controls that permit a specific user to copy for the original document and the background image of Paragraphs 0066-0069 is the same as the additional information as claimed and the copy inhibition code array and the copy condition code are arranged over the entire image surface as taught in Paragraph 0112. The copy inhibition code array and copy condition code array thus permit a specific user to copy for each document without the latent image characters "COPY" being added; MOREOVER, the received additional information may be the PDL information of Paragraph 0075 or may be either from the embedded code information in the background image or the additional information retrieved from the internal memory, e.g., the machine number, user ID and password stored in the internal ROM; Paragraphs 0125-0127, or the contents of the condition information with the information registered in the internal memory; Paragraph 0157;*

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*based on the additional information received from the internal memory, the control part 32 analyzes the condition information represented by the condition code to permit or inhibit copying of the image; and by the template matching technique of Paragraph 0133 and the judgment is made whether the document image is a copy inhibition document of Paragraph 0149 based on the embedded information in the background image. Permit of copying means the permit of copying of the document image which is an original image to be copied without copy inhibition wherein the copying of the document image is an original image. FINALLY, in Paragraph 0162, 0165; 0066-0069; Matsunoshita teaches additional information being ALSO attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. The original document image may be printed. The copy inhibition information is attached to the latent image area to distinguish from an original image. See Paragraph 0193-0194 wherein the document data may be printed without the pattern images or without the copy inhibition information. In Paragraph 0200, the copy inhibition code is used to permit the copying of the printed document wherein the printed document serves as "an original document". However, Paragraph 0210-0211 illustrate that the document is printed with the pattern images shown);*

Determination means for determining a plurality of positions in the background area which is defined by the area-assignment information and a plurality of positions in the latent-image area which is defined by the area assignment information, wherein at least either positions

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of the plurality of positions in the background area and the plurality of positions in the latent image area are determined based on the additional information (e.g., *Matsunoshita has taught in Paragraph 0092 that a pattern number array as corresponding to the claim limitation of the area assignment information is generated having the same size as of the whole latent image wherein the values of the elements of the pattern number array are 0s, or 1s on the whole image; in Paragraph 0083, Matsunoshita has taught the pattern number array is such that latent image characters are depicted by the pattern number (e.g., 2s) according to the predetermined rules on the background in which the copy inhibition codes are condition codes are arrayed and in Paragraph 0090, Matsunoshita has taught that the periphery of the rectangular area having given vertical and horizontal sizes is entirely defined by 1s; see Paragraph 0100 wherein Matsunoshita has taught that the pattern images inside the latent image characters are different from those outside the latent image);*

Generating means for generating a pattern image data by arranging dots of a first dot size at the determined positions in the latent-image area and arranging dots of a second dot size that is a smaller dot size than the first dot size at the determined positions in the latent image area (e.g., *Paragraph 0101; the relatively large dots outside the latent image are faithfully reproduced, but relatively small dots within the latent image characters cannot be faithfully copied by the copying machine; moreover, the document image and the background image containing a number of pattern images may have dots of different sizes; Figs. 3-4, 6(A)-6(B), Paragraph 0005, 0016, 0021, 0027, 0066-0069, 0100, 0101; the background image is generated having a size smaller than the document image; Paragraph 0160*);

Wherein the additional information can be extracted (See Paragraph 0110 wherein the latent image comes forth into view and thus it can be extracted; moreover, in Paragraph 0116-0118 and 0129-0131 the copy inhibiting information can be extracted according to the dots or the binary data 0 and 1 within the latent-image area; see also Paragraph 0162-0163)

Matsunoshita clearly teaches that the additional information such as the embedded code information with the contents of the condition information and the copy inhibition code are reconstructed as a background image wherein the background image includes a latent image. Moreover, the background image including the additional information is also attached to the document image in compositing; see Paragraph 0016, 0021, 0027, 0051, 0054, 0066, 0072, 0081, 0083, 0088, 0093, 0099-**0106**, 0109, 0117, 0124-0127, 0132-0133, 0145-0147, 0155-0165, 0198-0204, 0209-0211; See paragraph 0066-0069; Matsunoshita teaches additional information being attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. The copy as shown in Figs. 6(B) and 6(C) is legible with characters "COPY". Therefore, the copy inhibition information is attached to the latent image area to distinguish an original image from a copy. In the images in Figs. 6(B) and 6(C), "COPY" can be seen by the human eye.

In other words, Matsunoshita clearly shows that additional information is ALSO attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image



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area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine in which the character image is snow white not containing characters and graphics (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. See paragraph 0110 that the characters embedded as a latent image comes forth into view when the document image is copied. See also Paragraph 0160 that the background image is located in a predetermined location of the document image.

The attached information is capable of distinguishing the original document from a copy. The cited reference teaches the composite image having the embedded information is an ORIGINAL image as distinct from the copied one after it is subject to the copying operation. This allows the copy of the original document to be distinguished from the original document. The user is also capable of printing out the original document without attaching the additional information, i.e., the background image to the original document when the user is permitted to print the original document. Moreover, Matsunoshita discloses the copying of the original document is either allowed or prohibited, and if allowed, a copy inhibition mark is attached with the original document in the latent image area together with the background image. See Paragraph 0193-0194 wherein the document data may be printed without the pattern images or without the copy inhibition information. In Paragraph 0200, the copy inhibition code is used to permit **the copying of the printed document** wherein the printed document serves as “an original document”. Paragraph 0210-0211 illustrate that the document is printed as a copy with the pattern images shown.

Matsunoshita discloses in Paragraph 0110 that this psychological deterrent acts on the illicit copying act and one can **distinguish between the original and the copied sheet by the emerging image**. *Therefore, Matsunoshita clearly discloses the additional information is capable of distinguishing an original image from a copy as the additional information is attached to the latent image area to distinguish an original image from a copy.* In the image of Fig. 6(B), the copied image is clearly different from the original image-the confidential document.

However, Matsunoshita is silent to the claim limitation wherein the additional information can be extracted based on the difference between the positions of the arranged dots and predetermined positions.

Shimada teaches the claim limitation the claim limitation wherein the additional information can be extracted based on the difference between the positions of the arranged dots and predetermined positions (*See Shimada Paragraph 0101, 0110, 0166*).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to have incorporated Shimada's teaching into Matsunoshita because the printed matter of Matsunoshita can be irradiated with UV rays of Shimada so that the latent image can be visually recognized/extracted. Moreover, Shimada discloses the claim limitation generating means for generating a pattern image by arranging dots of a first dot size in the background area that is defined by the area-assignment information, and based on the additional information, arranging dots of a second dot size that is a smaller dot size than the first dot size in the latent-image area that is defined by the area-assignment information (*See Shimada Figs. 1, 4, 7 and 11*).

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One of the ordinary skill in that art would have been motivated to have extracted the additional information including the latent-image area according to the arrangement of the dots in the latent image area as the dots of the patent image area is different from the dots in the peripheral area according to Shimada (*Shimada Figs. 1, 4, 7 and 11*) that can be visually recognized with the device of Shimada (*Shimada Paragraph 0101, 0110, 0166*).

Re Claims 55 and 64:

Matsunoshita further discloses the claim limitation wherein the additional information can be extracted based on the difference between the positions of the arranged dots and predetermined positions in the vertical axis and the difference between the positions of the arranged dots and the predetermined positions in the horizontal axis (*See Matsunoshita Figs. 5(A)-6(F) has taught the horizontal and vertical positions and the arranged dots relative to the predetermined positions 0 in the vertical axis and predetermined positions 0 in the horizontal axis. See Paragraph 0089-00910 and 0095 wherein the coordinate positions are determined*).

Re Claims 56 and 65:

Matsunoshita and Shimada further disclose the claim limitation wherein the additional information can be extracted based on whether the result of multiplication of the difference between the positions of the arranged dots and predetermined positions in the vertical axis and the difference between the positions of the arranged dots and the predetermined positions in the horizontal axis is negative or positive (*See Matsunoshita Figs. 5(A)-6(F) has taught the horizontal and vertical positions and the arranged dots relative to the predetermined positions 0 in the vertical axis and predetermined positions 0 in the horizontal axis. See Paragraph 0089-*

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00910, 0095-0098 and 0128 wherein the predetermined positions are determined for the pattern image with the predetermined rules for generating the pattern number array and the additional information is extracted based on the pattern number array according to Shimada).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcw



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